4. PROJECT SUMMARY

County: PLACER

Applicant: UNIVERSITY OF CALIFORNIA DAVIS, in collaboration with CALIFORNIA STATE UNIVERSITY SACRAMENTO and the UPPER AMERICAN RIVER FOUNDATION

Project Title: FISH AND HABITAT RESPONSE TO THE NATURAL FLOW REGIME OF THE NORTH FORK AMERICAN RIVER: ESTABLISHING A REFERENCE SITE FOR THE NORTHERN SIERRA NEVADA RANGE

PROJECT GOAL

This project will provide a reference for the management of other rivers on the western slope of the Sierra Nevada. The upper North Fork American River (NFAR) is largely free-flowing, and thus provides a baseline that can be used for comparison to the many heavily regulated rivers in the region, and development of management plans during FERC re-licensing.

PROJECT SCOPE

Our approach is a multi-year assessment of key biological and physical indicators of the structure and health of the stream ecosystem. We will sample fish populations and habitat, geomorphology, groundwater hydrology and amphibians in the NFAR. Our results will increase the capacity of the SNC and its stakeholders to deal with broader issues related to fish populations, climate change, tourism and recreational angling, wildfires and sediment load, as well as the immediate needs of water management during dry years, and licensing of hydroelectric projects in Sierra Nevada rivers. Our objectives are to determine:

- The seasonal movement of native and non-native trout along the NFAR, including Lake Clementine, in relation to flow, temperature, and spawning habitat.
- Baseline habitat quality, including the relationships between the natural flow regime, aquatic habitat, fish abundance, benthic macroinvertebrate (BMI) distribution and foothill yellow-legged frogs (*Rana boylii*, a species of special concern) at sites along a range of elevations in the NFAR.
- Physical aspects of the lotic and riparian environment that affect instream habitat, include sediment load, substrate conditions, shade, temperature, groundwater/ surface water interaction, geomorphic features, and surface water flow conditions.

The North Fork American River was chosen because it is a relatively natural system, and can be used as a model for other Sierran watersheds. The tie between biological and physical indicators will produce a robust assessment of a system that can then be transferred to heavily managed or impacted watersheds in other parts of the Sierra Nevada. Results of the project will be presented to stakeholders through the following deliverables: interim and final project reports, a final public workshop, field training sessions with local high school teachers and their classes, and presentations to local

watershed groups and fishing clubs. Our results will also be shared with staff at the US Forest Service, California Department of Fish and Game, and California State Parks.

LETTERS OF SUPPORT

A. Letter of institutional support – California State University Sacramento
B. Letter of institutional support – Upper American River Foundation
C. Letter of support, access from Alison Harvey and David Loera
D. Letter of support, access from Protect American River Canyons (PARC)
E. Letter of support from US Forest Service
F. Letter of support from Trout Unlimited
G. Letter of support from CalTrout
H. Letter of support from Granite Bay Flycasters
I. Letter of support from North Area Sportsmen's Association
J. Letter of support from Placer County Resource Conservation District

SNC PROJECT DELIVERABLES AND SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Habitat, snorkel, BMI, amphibian surveys	May - Oct 2009 & 2010
Install antennas; capture, tag, and radio-track fish	May 2009 - May 2011
Habitat, snorkel, BMI, amphibian, radio-tracking data entry and analysis	Jan. 2010 - July 2011
Interim and final habitat, snorkel, BMI, amphibian, radio-tracking reports	April 2010 & Sept. 2011
Project coordination (CSUS)	Mar. 2009 - Sept. 2011
Geomorphology surveys (CSUS)	May - Oct 2009 & 2010
Geomorphology data entry and analysis (CSUS)	Jan. 2010 - July 2011
Interim and final geomorphology reports (CSUS)	April 2010 & Sept. 2011
Project coordination (UARF)	Mar. 2009 - Sept. 2011
High school teachers and students participate in field surveys (UARF)	July - Nov. 2009 & 2010
Workshop - Plan, advertise, prepare presentations, host	June - August 2011
Prepare and make presentations to local groups	July - Sept. 2011
FINAL PAYMENT/FINAL PAYMENT REQUEST	**September 30, 2011**

SNC PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Habitat, snorkel, BMI, amphibian surveys	$70,045
Install antennas; capture, tag, and radio-track fish	119,241
Habitat, snorkel, BMI, amphibian, radio-tracking data entry and analysis	12,362
Interim and final habitat, snorkel, BMI, amphibian, radio-tracking reports	16,684
Project coordination (CSUS)	15,796
Geomorphology surveys (CSUS)	72,188
Geomorphology data entry and analysis (CSUS)	16,560
Interim and final geomorphology reports (CSUS)	16,560
Project coordination (UARF)	8,815
High school teachers and students participate in field surveys (UARF)	22,038
Workshop - Plan, advertise, prepare materials and presentations, host	7,181
Prepare and make presentations to local groups	6,181
Overhead 15%	57,548
SNC GRANT TOTAL	**$441,198**